

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

COPY

1949

Applicant : K. Roger Aoki et al ) Examiner:  
Serial No. : Unknown ) Unknown  
Filed : December 27, 1993 ) Art Unit:  
For : USE OF BOTULINUM TOXINS FOR ) Unknown  
TREATING VARIOUS DISORDERS AND  
CONDITIONS AND ASSOCIATED PAIN

December 27, 1993

INFORMATION DISCLOSURE STATEMENT

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

Enclosed herewith are copies of patents and/or technical articles of which the Applicants are aware and are being submitted to the U.S. Patent and Trademark Office in accordance with 37 CFR 1.97. The enclosed U.S. Patents and/or technical articles are identified on the enclosed PTO-1449 Form and discussed hereinbelow.

AA. U.S. Patent No. 2,373,454, issued April 10, 1945. This patent is directed to the preparation of agents for the prophylaxis and therapy of tetanus. The method of preparing a tetanus toxin includes the incubation of Clostridium tetani in a liquid peptone containing medium in the presence of a small amount of activated charcoal and separated in a toxin from the charcoal.

AB. U.S. Patent No. 2,719,102, issued September 27, 1955. This patent discloses the manufacture of a toxoid for immunizing sheep against enterotoxemia caused by Clostridium perfringens, type D. The toxoid is obtained by the growth of Clostridium perfringens, type D, in a suitable culture medium, followed by formalization to convert protoxin and toxin to toxoid. Thereafter, treatment with alum and subsequent adjustment of the pH of the alum treated product by the addition of an alkaline material is performed.

INFORMATION DISCLOSURE STATEMENT

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AC. U.S. Patent No. 4,713,240, issued December 15, 1987. This patent is directed to a vaccine composition which includes an immunogenic-effective amount of antigen, chemically linked to a water insoluble support in combination with a pharmaceutically accepted carrier. A method of making monoclonal antibodies by providing to the host organism is used for the production of lymphocytes.

AD. U.S. Patent No. 4,932,936, issued June 12, 1990. This patent is directed to an apparatus and the method for the pharmaceutical control of urethral spasticity which includes the injection of botulinum A toxin.

AE. U.S. Patent No. 5,055,291, issued October 8, 1991. This patent discloses methods and compositions for the inhibition of posterior lens capsule opacification after extracapsular cataract extraction. The method includes using a cytotoxic agent specific for epithelial cells, with said site cytotoxic agent being a conjugate of protein macromolecules capable of binding substantially specifically to epithelia cells.

AF. U.S. Patent No. 5,055,302, issued October 8, 1991. This patent discloses various methods and compositions for regulating the growth of an animal's eye, which includes the administration of an effective amount of neuropeptides, vasoactive intestinal peptide, PHI or analogs of these peptides to the eye of an animal.

INFORMATION DISCLOSURE STATEMENT

Page 3

AG. U.S. Patent No. 5,053,005, issued October 1, 1991. This patent discloses the use of botulinum A toxin for blocking muscle stimulation in order to influence the spinal curvature.

AH. U.S. Patent No. 5,183,462, issued February 2, 1993. This patent discloses a method of measuring the activity of neurotoxin derived from chemodenervation pharmaceutical preparations, such as botulinum toxin derived preparations. Applications for the botulinum toxins include the inhibition of a tooth wear, cosmetic wrinkle reduction, stroke and cerebral-spinal injury, cerebral palsey, multiple sclerosis and parkinson's disease.

AI. U.S. Patent No. 3,132,995, issued May 12, 1964. This patent discloses novel bacterial endotoxin fractions, which are capable of conferring a high degree of protection to warm-blooded animals against infectious diseases.

The Applicants do not believe that the hereinabove referenced patents anticipate or suggest the present invention as claimed, and that one skilled in the art

INFORMATION DISCLOSURE STATEMENT

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would not find the present invention obvious in view of the cited art.

Respectfully submitted,



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FORM PTO-1449 (Modified)				ATTY. DOCKET NO. 1949	SERIAL NO. UNKNOWN
LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT				APPLICANT AOKI ET. AL.	
(Use several sheets if necessary)				FILING DATE	GROUP UNKNOWN

REFERENCE DESIGNATION			U.S. PATENT DOCUMENTS			
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FLING DATE IF APPROPRIATE
M	2373454	4/45	BUNMY ET AL	167	78	
AB	3132995	5/64	BERGER ET AL	167	78	
AC	4713240	12/87	WILKINS ET AL	424	92	
AD	4932936	6/90	DYKSTRA ET AL	604	51	
AE	5055291	10/61	LAM ET AL	424	85.91	
AF	5055302	10/61	LATIES ET AL	424	427	
AG	5053005	10/61	BORUDIC	604	51	
AH	5183462	2/93	ROKOP	604	51	
AN	52719102	9/55	BALDWIN	167	78	
AN						
AK						

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AL							
AM							
AN							
AO							
AP							

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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AT			

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

## FORM PTO-1449 (Modified)

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE  
STATEMENT

(Use several sheets if necessary)

ATTY. DOCKET NO.  
1949SERIAL NO.  
UNKNOWN

APPLICANT

AOKI ET AL...

FILING DATE

GROUP  
UNKNOWN

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AM		2373454	4/45	BUNNY ET AL	167	78	
AB		3132995	5/64	BERGER ET AL	167	78	
AC		4713240	12/87	WILKINS ET AL	424	92	
AD		4932936	6/90	DYKSTRA ET AL	604	51	
AE		5055291	10/61	LAM ET AL	424	85.91	
AF		5055302	10/61	LATIES ET AL	424	427	
AG		5053005	10/61	BORODIC	604	51	
AH		5183462	2/93	BORODIC	604	51	
AM		2719102	9/55	BALDWIN	167	78	
AN							
AK							

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
							YES NO
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AM							
AN							
AO							
AP							

## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**LIST OF ART CITED BY APPLICANT**

ATTY. DOCKET: 16952 CON1 (BOT)	SERIAL NO.: 08/627,118
APPLICANT: AOKI, et al.	TITLE: METHOD FOR TREATING SWEAT SECRETIONS AND SWEAT GLANDS USING A BOTULINUM TOXIN
FILING DATE: APRIL 3, 1996	GROUP: 1654

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE (if applicable)
	AA						
	AB						
	AC						
	AD						
	AE						

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION (yes/no)
	BA						
	BB						
	BC						

**OTHER ART**

(Including Author, Title, Date, Pertinent Pages, etc.)

	CA	Grusser Von O-J, Die ersten systematischen Beschreibungen und tierexperiemtellen Untersuchungen des Botulisms, Sudhoffa Archiv (1986), 70(2), 167-186. English translation attached.
	CB	Kerner, J. Das Fettgift oder die fettsaure und ihre wirkungen auf den thierischen organismus, ein beytrag zur untersuchung des in verdorbenen wursten giftig wirkenden stoffes. Stuttgart und Tubingen: Cotta, 368 pages (1822); English translation of table of contents and of Chapter 8 enclosed.
	CC	
	CD	
	CE	
	CF	
	CG	
	CH	
	CI	

EXAMINER \_\_\_\_\_

DATE CONSIDERED \_\_\_\_\_

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U.S. Department of Commerce, Patent and Trademark Office		PTO form 1449	Atty Docket No.	Serial No.
			16952 CON 1 (AP)	08/627,118
INFORMATION DISCLOSURE STATEMENT BY APPLICANT		Applicant(s): Aoki et al.		
(Use several sheets if necessary)				
		Filing Date: April 3 1996 Group 1654		

## U.S. Patent Documents

*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
AA	5,183,462	Feb. 2, 1993	Borodic			
AB	4,720,494	Jan. 19, 1988	Felger et al.			
AC	4,234,566	Nov. 18, 1980	Packman et al.			
AD						
AE						
AF						

## Foreign Patent Documents

## Translation

	Document	Date	Country	Class	Subclass	Yes	No
BA							
BB							
BC							
BD							

## OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

CA	Bergmann, MD, et al.; <i>Selective Degeneration of Sudomotor Fibers in Ross Syndrome and Successful Treatment of Compensatory Hyperhidrosis with Botulinum Toxin</i> ; <u>Muscle &amp; Nerve</u> ; Dec. 1998, pp. 1790-93.
CB	Glogau, Richard MD; <i>Botulinum A Neurotoxin for Axillary Hyperhidrosis</i> ; <u>Dermatol Surg.</u> ; Aug. 1998; 24(8), pp. 817-819.
CC	Heneson, Nancy; <i>Deadly Toxin Calms Excited Muscles</i> ; <u>New Scientist</u> , 8 Dec. 1990, p. 24.
CD	Kaszynski, Edwin, et al.; <i>Mouse Foot Screen for the Inhibition of Sweating by Anticholinergic Drugs</i> ; <u>The Journal of Investigative Dermatology</u> , 1974, Vol. 62, pp. 510-513.
CE	Naumann, M., et al.; <i>Botulinum Toxin for Focal Hyperhidrosis: Technical Considerations and Improvements in Application</i> ; <u>British Journal of Dermatology</u> , 1998, 139, pp. 1123-24.
CF	Naumann, Markus, et al.; <i>Botulinum Toxin for Palmar Hyperhidrosis</i> ; <u>Lancet</u> , Jan. 25, 1997, Vol. 349.

Examiner	Date Considered
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U.S. Department of Commerce, Patent and Trademark Office		Atty Docket No.	Serial No.
		16952 CON1 (AP)	08/627,118
INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use several sheets if necessary)		Applicant(s) AOKI, et al.	
		Filing Date	Group
		April 3, 1996	1654
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)			
	CG	Naumann, Markus, et al.; <i>Focal Hyperhidrosis</i> ; <u>Arch Dermatol</u> , March 1998, Vol. 134, pp. 301-04.	
	CH	Naver, Hans, et al.; <i>The Treatment of Focal Hyperhidrosis with Botulinum Toxin</i> ; <u>European Journal of Neurology</u> , 1997, Vol. 4, Suppl 2, pp. S75-S79.	
	CI	Odderson, Ib, MD; <i>Axillary Hyperhidrosis: Treatment with Botulinum Toxin A</i> ; <u>Arch Phys Med Rehabil.</u> , March 1998, Vol. 79, pp. 350-52.	
	CJ	Schantz, Edward, et al.; <i>Properties and Use of Botulinum Toxin and Other Microbial Neurotoxins in Medicine</i> ; <u>Microbiological Reviews</u> , Mar. 1992, pp. 80-95.	
	CK	Schnider, P., et al.; <i>Double-Blind Trial of Botulinum A Toxin for the Treatment of Focal Hyperhidrosis of the Palms</i> ; <u>British Journal of Dermatology</u> , 1997, 136(4), pp. 548-52.	
	CL	Shelley, W. B., et al.; <i>Botulinum Toxin Therapy for Palmar Hyperhidrosis</i> ; <u>Journal of the American Academy of Dermatology</u> , Feb. 1998, 38 (2 Part 1), pp. 227-29.	
	CM	Stevens, Leslie M., et al.; <i>Development and Properties of the Secretory Response in Rat sweat Glands: Relationship to the Induction of Cholinergic Function in Sweat Gland Innervation</i> ; <u>Developmental Biology</u> , 1987, 123, pp. 179-190.	
	CN		
	CO		
	CP		
	CQ		
	CR		
	CS		
	CT		
Examiner		Date Considered	
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.</p>			

<b>FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE</b> <b>(Rev. 2-32) PATENT AND TRADEMARK OFFICE</b>		ATTY. DOCKET NO. <i>2240</i>	SERIAL NO. <i>Unknown</i>
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <small>(Use several sheets if necessary)</small>		<b>APPLICANT</b> <i>AOKI et al</i>	
		FILING DATE <i>Unknown</i>	GROUP <i>1200</i>

## U.S. PATENT DOCUMENTS

## FOREIGN PATENT DOCUMENTS

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**LIST OF PRIOR ART CITED BY APPLICANT**

ATTY. DOCKET: 16952CON	SERIAL NO.: 08/627,118
APPLICANT: AOKI ET AL	TITLE: USE OF BOTULINUM TOXINS FOR TREATING VARIOUS DISORDERS AND CONDITIONS
FILING DATE: APRIL 3, 1996	GROUP:

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE (if applicable)
	AA	2373454	4/45	BUMY ET AL			
	AB	3132995	5/64	BERGER ET AL			
	AC	4713240	12/87	WILKINS ET AL			
	AD	4832936	6/90	DYSTRA ET AL			
	AE	5056291	10/91	LAM ET AL			
	AF	5055302	10/91	LATIES ET AL			
	AG	5053005	10/91	BORODIC			
	AH	5183462	2/93	BORODIC			
	AI	2719102	9/55	BALDWIN			
	AJ	5766605	6/98	SANDERS ET AL			
	AK	5437291	8/95	PASRICHA ET AL			

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION (yes/n )
	AL	6528171	PCT				

**OTHER PRIOR ART**

(Including Author, Title, Date, Pertinent Pages, etc.)

	AM	X	PURNGVARIN ET AL; J. MED. ASSOC. THAI. (1992 apr) 75 (4) 199-203
	AN	X	CORRESPONDENCE DATED 12/10/91 BETWEEN WILLIAM C. SHEPHERD AND IRA SANDERS
	AO	X	CORRESPONDENCE DATED 4/13/92 BETWEEN IRA SANDERS AND ANGELIKA S. ASWAD REGARDING "ANIMAL STUDY"
	AP	X	PARTIAL CORRESPONDENCE DATED 4/24/92 BETWEEN ANGELIKA S. ASWAD AND DR. SANDERS REGARDING "BOTULINUM TOXIN TO DECREASE SALIVARY FLOW"
	AQ	X	AMBACHE, J. PHYSIOL. (1951) 113, 1-17
	AR	X	BRIN. ARCH. DE NEUROBIOL. 54. SUPL. 3 (7-23) 1991

EXAMINER \_\_\_\_\_

DATE CONSIDERED \_\_\_\_\_

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**SUPPLEMENTARY  
LIST OF ART CITED BY APPLICANT**

ATTY. DOCKET: 16952CON(AP)	SERIAL NO.: 08/627,118
APPLICANT: AOKI et al.	TITLE: Use of Botulinum Toxins For Treating Various Disorders and Conditions and Associated Pain
FILING DATE: April 3, 1996	GROUP: 1654

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE (if applicable)
	AA						
	AB						

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION (yes/no)
	BA						
	BB						

**OTHER ART**

(Including Author, Title, Date, Pertinent Pages, etc.)

CA	Ambache, N.; <i>A Further Survey of the Action of Clostridium Botulinum Toxin upon Different Types of Autonomic Nerve Fibre</i> ; <u>J. Physiol.</u> ; 1951; 113:1-17.
CB	Jenzer, G., et al.; <i>Type B Botulism, Report on Mild Courses with Predominantly Autonomic Nervous Impairment</i> ; <u>Schweiz. Med. Wschr.</u> ; 104, 685-693; 1974. (English translation also enclosed.)
CC	

EXAMINER \_\_\_\_\_

DATE CONSIDERED \_\_\_\_\_

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<b>Notice of References Cited</b>		Application No. <b>08/627,118</b>	Applicant(s) <b>Aoki et al.</b>		
		Examiner <b>Anish Gupta</b>	Group Art Unit <b>1654</b>	Page 1 of 1	
<b>U.S. PATENT DOCUMENTS</b>					
	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	5,766,605	06-16-98	Sanders et al.	424	239.1
B				RECEIVED	
C				SEP 7 1999	
D					
E				LEGAL/PATENTS	
F					
G					
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I					
J					
K					
L					
M					
<b>FOREIGN PATENT DOCUMENTS</b>					
	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS
N					
P					
Q					
R					
S					
T					
<b>NON-PATENT DOCUMENTS</b>					
	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)				DATE
U	File scisearch on STN. AN no. 93:162872. Price et al. 'A COMPARATIVE STUDY OF TEAR SECRETION IN BLEPHAROSPASM AND HEMIFACIAL SPASM PATIENTS TREATED WITH BOTULINUM TOXIN', J. of Clin. Neuro-Ophthalmology, Vol. 13, No. 1, pp. 67-71. Mar. 1993.				1993
V	File Caplus on STN. DN no. 105:220509. Knight, D.E. 'BOTULINUM TOXIN TYPES A, B AND D INHIBIT CATECHOLAMINE SECRETION FROM BOVINE ADRENAL MEDULLARY CELLS', FEBS. Lett. Vol. 207, No. 2, pp. 222-226.				1986
W	Kondo et al. 'MODIFICATION OF THE ACTION OF PENTAGASTRIN ON ACID SECRETION BY BOTULINUM TOXIN', Experientia. Vol. 33, No. 6, pp. 750-751.				1977
X					